



## MASTER FILE

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### DSSD CENSUS 2000 PROCEDURES AND OPERATIONS MEMORANDUM SERIES # R-21

MEMORANDUM FOR Richard F. Blass  
Assistant Division Chief, Evaluation and Coverage Measurement  
Field Division

From: Donna Kostanich *DK*  
Assistant Division Chief, Sampling and Estimation  
Decennial Statistical Studies Division

Prepared by: Thomas Mule *TM*  
Sample Design Team  
Decennial Statistical Studies Division

Subject: Accuracy and Coverage Evaluation Survey: County Sample Size  
Estimates

#### I. INTRODUCTION

This memorandum documents the Accuracy and Coverage Evaluation (A.C.E.) survey planning estimates we are providing to Field Division. Field Division requires estimates of the number of clusters and housing units following the reduction of the listing sample in order to adequately prepare staffing and other resource allocation plans for the housing unit follow-up. In addition, it is important for Field Division to know roughly where these clusters and housing units will be located. Our goal is to provide estimates at the county level which are indicators of the magnitude of the number of clusters and housing units.

The A.C.E. county sample size estimates are census confidential, protected by Title 13 of the U.S. Code. This is restricted data for official use only. This information should only be distributed to authorized A.C.E. staff.

We stress that these estimates are for planning purposes. The actual number of clusters and housing units in the sample following the cluster reduction and the small block clustering subsampling will differ from these estimates. The sample designs for the cluster reduction and the small block cluster subsampling have not been set. Also, the sample size estimates may be different due to sampling variability during selection.

These county numbers will generally yield overestimates of the overall state and national number of clusters that will actually remain in sample. This is in large part because we always rounded up to the nearest whole number of clusters. So, if a county had at least one cluster in the listing sample, our estimates show the county having at least one cluster after the reduction.

These estimates are provided for the 50 states, the District of Columbia and Puerto Rico.

## II. ASSUMPTIONS

The basis of these estimates is the listing sample clusters. We simulated a reduction that accounts for a certain amount of differential sampling within a state. Features of the simulation include:

- At the county level, the estimates will never exceed the number of listing clusters or the number of expected housing units to list that we provided following the listing sample selection. These housing unit counts were used to generate our estimates. They may differ from other housing unit counts available.
- The 300,000 housing unit interview sample was proportionally allocated to the 50 states and the District of Columbia. For more information, see Mule (1999).
- There will be a differential reduction across states. Attachment 1 provides estimates of the overall retention rate of clusters for each state. This includes the small, medium, large and American Indian Reservation clusters. Attachment 2 provides estimates of the retention rate of just the medium and large clusters for each state. By comparing these two attachments, you can see that in Florida we expect to retain 88 percent of the total listing sample clusters, but we expect to retain all of the medium and large clusters. In Wyoming, we expect to retain 26 percent of the total listing sample clusters but we expect to retain only 15 percent of their medium and large clusters.
- These estimates reflect a likely amount of differential subsampling within the states for the A.C.E. reduction. Clusters were classified as minority clusters if in 1990 the cluster had a certain percentage of a minority demographic/tenure group living in the cluster. The remaining clusters were classified as non-minority clusters. For these estimates, the minority clusters were differentially subsampled in all states to improve the reliability and sample sizes of minority coverage estimates. The amount of differential subsampling in the A.C.E. reduction has not been set.

- The Puerto Rico medium and large stratum listing sample clusters will be retained with certainty. These county estimates for Puerto Rico reflect the retention of these clusters.
- The 355 American Indian Reservation stratum clusters will all be retained in the A.C.E. reduction. These county estimates reflect the retention of these clusters.
- The small block cluster subsampling sample design has not been set. For these estimates, small block clusters on American Indian Country<sup>1</sup> were retained with certainty. For the remaining small block clusters, we used a conservative subsampling rate of 1-in-4.

### III. COUNTY SAMPLE SIZE ESTIMATES

The county sample size estimates were saved to a spreadsheet. The name of the spreadsheet is COUNTYEST.WK4. The spreadsheet provides a record for each county in the United States including:

- Regional office
- FIPS state code
- FIPS county code
- County name
- Estimated number of clusters after A.C.E. cluster reduction and small block cluster subsampling
- Estimated number of housing units after A.C.E. cluster reduction and small block cluster subsampling
- Number of listing sample clusters
- Number of listing sample housing units

These estimates are based on the assumptions stated in Section II and may differ from the actual sample due to changes in the sample designs or sampling variability during selection. Note that even counties with no listing sample are included in the spreadsheet. A reminder that the A.C.E. county sample size estimates are census confidential, protected by Title 13 of the U.S. Code. This is restricted data for official use only. This information should only be distributed to authorized A.C.E. staff.

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<sup>1</sup> American Indian Country includes American Indian Reservations, Trust Lands, Tribal Jurisdiction Statistical Areas, Tribal Designated Statistical Areas, and Alaska Native Village Statistical Areas.

The table in Attachment 3 shows the distribution of counties by sample size. About 50 percent of the counties have two or fewer estimated clusters.

This information will be provided to Jan Jaworski and Neala Stevens of Field Division.

#### IV. REFERENCE

Mule (June, 1999), "Accuracy and Coverage Evaluation Survey: State Interview Sample Size Estimates," DSSD CENSUS 2000 PROCEDURES AND OPERATIONS MEMORANDUM SERIES R, Internal Census Bureau Memorandum.

cc:

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Sample Design Team  
Neala Stevens (FLD)

Approximate Overall Retention Rates of Clusters by State

State	Estimated Clusters	Listing Sample Block Clusters	Percent Retained
Alabama	266	511	52%
Alaska	90	348	26%
Arizona	333	648	52%
Arkansas	209	544	38%
California	1,227	2,948	42%
Colorado	232	535	43%
Connecticut	130	390	33%
Delaware	75	419	18%
District of Columbia	75	399	19%
Florida	559	635	88%
Georgia	429	536	80%
Hawaii	142	284	50%
Idaho	130	447	30%
Illinois	517	606	86%
Indiana	296	393	76%
Iowa	222	442	51%
Kansas	249	494	51%
Kentucky	263	499	53%
Louisiana	269	627	43%
Maine	93	344	27%
Maryland	207	388	54%
Massachusetts	236	407	58%
Michigan	439	499	88%
Minnesota	289	442	66%
Mississippi	234	464	51%
Missouri	304	433	71%
Montana	179	491	37%
Nebraska	201	445	46%
Nevada	104	506	21%
New Hampshire	81	332	25%
New Jersey	309	499	62%
New Mexico	223	649	35%
New York	699	1,382	51%
North Carolina	370	504	74%
North Dakota	170	433	40%
Ohio	468	533	88%
Oklahoma	302	565	54%
Oregon	177	374	48%
Pennsylvania	494	753	66%
Rhode Island	77	384	21%
South Carolina	226	492	46%
South Dakota	213	432	50%
Tennessee	314	555	57%
Texas	1,023	2,253	46%
Utah	125	501	25%
Vermont	85	310	28%
Virginia	362	460	79%
Washington	264	397	67%
West Virginia	131	314	42%
Wisconsin	281	398	71%
Wyoming	126	492	26%
National Total	14,519	29,136	50%
Puerto Rico	518	559	93%

## Approximate Retention Rates of Medium and Large Block Clusters by State

State	Listing Sample Medium and Large Block Clusters	Percent Retained
Alabama	395	40%
Alaska	327	20%
Arizona	449	40%
Arkansas	454	20%
California	2,753	45%
Colorado	450	35%
Connecticut	370	35%
Delaware	399	20%
District of Columbia	379	20%
Florida	489	100%
Georgia	382	70%
Hawaii	264	50%
Idaho	387	20%
Illinois	421	95%
Indiana	253	80%
Iowa	295	35%
Kansas	300	35%
Kentucky	403	35%
Louisiana	562	30%
Maine	305	20%
Maryland	352	55%
Massachusetts	369	60%
Michigan	372	95%
Minnesota	291	60%
Mississippi	380	25%
Missouri	271	75%
Montana	400	20%
Nebraska	300	25%
Nevada	455	15%
New Jersey	460	65%
New York	1,234	55%
New Mexico	471	15%
New Hampshire	307	20%
North Carolina	357	75%
North Dakota	300	25%
Ohio	401	95%
Oklahoma	415	30%
Oregon	285	40%
Pennsylvania	573	75%
Rhode Island	364	20%
South Dakota	299	25%
South Carolina	397	35%
Tennessee	422	45%
Texas	1,903	40%
Utah	456	20%
Vermont	289	25%
Virginia	362	65%
Washington	307	65%
West Virginia	268	25%
Wisconsin	269	70%
Wyoming	415	15%
National Total	23,781	40%
Puerto Rico	463	100%

Distribution of Counties by Sample Size

Estimated Number of Clusters	Number of Counties	Percent
0-1	683 <sup>1</sup>	21%
2	923	29%
3	570	18%
4-5	474	15%
6-10	323	10%
11-39	211	6%
40+	36	1%

<sup>1</sup> Some counties have zero estimated cluster sample size because they had no clusters selected in the listing sample.